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09/715,892	11/17/2000	K. Scott Bower	10005277-1	6908

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Kevin Hart Esq
Hewlett-Packard Company
Intellectual Property Adminstration
P O Box 272400
Fort Collins, CO 80527-2400

EXAMINER	
QUILLEN, ALLEN E	
ART UNIT	**PAPER NUMBER**
2676	8

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/715,892	Applicant(s) BOWER ET AL.
	Examiner Allen E. Quillen	Art Unit 2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *1, 10-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Claims 1, 10-18 are cancelled. New claim number 19 is received.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 2-9, 19 are rejected under 35 U.S.C. 102(a) as being anticipated by MacInnis, et al, U.S. Patent 6,501,480.

4. Regarding claim 2, MacInnis discloses a device for producing a composite (Column 3, line 51) digital video data stream (Figure 1, Column 1, lines 50-53) containing pixel data (Column 5, lines 2, 5, 31) corresponding to an image to be rendered (Figures 1-5, Column 11, lines 16-20), the composite digital video data stream being formed from multiple digital video data streams (Column 3, lines 39-41, Column 4, lines 1-16; Column 6, lines 30-45), each of the multiple digital video data streams being provided by a graphics pipeline (Figure 4, Column 6, lines 19-21), each graphics pipeline being configured to process pixel data corresponding to at least a portion of the image to be rendered, said device comprising: an input mechanism configured to receive the multiple digital video data streams from the graphics pipelines, provide a frame of data corresponding to the image to be rendered, and insert pixel data from the multiple

digital video data streams into said frame of data such that, in response to receiving a first of the multiple digital video data streams, said input mechanism provides said frame of data and inserts the pixel data from the first of the multiple digital video data streams into a corresponding portion of said frame of data to form at least a portion of the composite digital video data stream (Figure 5, Column 9, line 5 through Column 11, line 7; Column 43, lines 62 through Column 47, line 45; Column 8, line 61 through Column 9, line 4; Column 43, line 62 through Column 44, line 33, ...*blending of different layers of graphics and/or video*), wherein said input mechanism has a first compositing element and a second compositing element, said first compositing element being configured to provide said frame of data corresponding to the image to be rendered in response to receiving pixel data corresponding to the first of the multiple digital video data streams (*MPEG or other digital video signals input to the system, analog video signals, digital video signals*, Column 3, lines 39-55; *With both analog and digital video input, either one may be scaled while the other is displayed full size at the time as passthrough video.* Column 4, lines 34-36; *various numbers of signals may be composited, including, for example two or more video windows*, Column 10, lines 65-66; Column 9, lines 60-62), said first compositing element being further configured to insert the pixel data corresponding to the first of the multiple digital video data streams into said corresponding portion of said frame of data to form a first compositing digital video data stream, said second compositing element being configured to receive pixel data corresponding to the second of the multiple digital video data streams and said first compositing digital video data stream, said second compositing element (*graphics compositor engine*, Column 47, line 25; Figure 6, element 58, *display engine*, Column 5, lines 24-50) being further configured to combine the pixel data corresponding to the second of

the multiple digital video data streams and said first compositing digital video data stream to form a second compositing digital video data stream (Figure 4, element 108, video compositor block with three inputs: graphics display, video display and passthrough video, Column 8, lines 61-63).

5. Regarding claim 3, MacInnis discloses the device of claim 2, wherein the multiple digital video data streams simultaneously (Column 4, lines 34-36) provide pixel data to said input mechanism, the first of the multiple digital video data streams containing three-dimensional (Column 5, line 53) pixel data corresponding to the image to be rendered, the second of the multiple digital video data streams containing two-dimensional (Column 11, lines 60 through Column 12, line 14) pixel data corresponding to the image to be rendered, and wherein said input mechanism is configured to combine said two-dimensional pixel data and said three-dimensional pixel data by replacing at least a portion of the pixel data provided by the second of the multiple digital video data streams with at least a portion of the pixel data provided by the first of the multiple digital video data streams (Column 57, lines 3, 6, 15, 17).

6. Regarding claim 4, MacInnis discloses the device of claim 2, further comprising: a controller electrically communicating with said input mechanism (Figures 2 - 4, Column 4, line 1 through Column 6, line 20) said controller being configured to provide a first control signal to said input mechanism, said first control signal containing information regarding which portion of said frame of data corresponds to the pixel data provided from the first of the multiple digital video data streams such that, in response to receiving said first control signal and the pixel data

from the first of the multiple digital video data streams, said input mechanism inserts the pixel data from the first of the multiple digital video data streams into said corresponding portion of said frame of data to form at least a portion of the composite digital video data stream (Column 4, lines 51-67) .

7. Regarding claim 5, MacInnis discloses the device of claim 2, further comprising: an output mechanism electrically communicating with said input mechanism, said output mechanism being configured to receive the composite digital video data stream and provide an output composite video data stream, said output composite video data stream being selectively configurable as any one of an analog video data stream, an analog stereo video data stream, a digital video data stream, and a digital stereo video data stream (Figures 1-3, Column 1, lines 39-55; Column 4, lines 1-29).

8. Regarding claim 6, representative of claim 8, MacInnis discloses the device of claim 2, wherein said controller is configured to provide a second control signal to said input mechanism, said second control signal corresponding to one of multiple compositing modes (Column 4, lines 34-39), a first of said compositing modes corresponding to each of the graphics pipelines providing pixel data associated with an entire frame of the image to be rendered, the pixel data of each of the graphics pipelines including a coordinate value offset (Column 111, lines 9-20; Column 12, line 11; Column 13, lines 65; Column 14, line 51) with respect to pixel data of others of the graphics pipelines, said input mechanism being configured to combine the pixel

data from the multiple digital video data streams so as to blend color values associated with corresponding coordinate values (Column 30, line 54-55).

9. Regarding claim 7, MacInnis discloses the device of claim 2, wherein said controller is configured to provide a second control signal to said input mechanism, said second control signal corresponding to one of multiple compositing modes, a first of said compositing modes corresponding to each of the graphics pipelines providing pixel data associated with a portion of the image to be rendered, the pixel data of each of the graphics pipelines being super sampled, said input mechanism being configured to average, with a selected weighting, the super-sampled pixel data (see above; Column 30, lines 32 through Column 31, line 36; through line 43, antialiased text and graphics).

10. Regarding claim 9, MacInnis discloses the device of claim 5, wherein said output mechanism has a first left channel frame buffer, a second left channel frame buffer, a first right channel frame buffer, and a second right channel frame buffer, said output mechanism being selectively configured to provide said passive digital stereo video data stream by receiving said composite digital video data stream, allocating pixel data from said composite digital video data stream to said first left channel frame buffer, said second left channel frame buffer, said first right channel frame buffer, and said second right channel frame buffer, and simultaneously outputting pixel data from one of said left channel frame buffers and one of said right channel frame buffers (Figures 2-5, elements 52, 59, 60, 184, 186; Figure 14, Column 25, line 62 through Column 30, line 31).

11. Regarding claim 19, MacInnis discloses the device of claim 2, wherein said controller is configured to provide a second control signal, a third control signal and a fourth control signal selectively to said input mechanism; said second control signal corresponding to a second of multiple compositing modes, the second of said compositing modes corresponding to each of the graphics pipelines providing pixel data associated with an entire frame of the image to be rendered, the pixel data of each of the graphics pipelines including a coordinate value offset (*changing the start address... shifts of any number of pixels*, Column 29, lines 50-56) with respect to pixel data of others of the graphics pipelines, said input mechanism being configured to combine the pixel data from the multiple digital video data streams so as to blend color values associated with corresponding coordinate values (*pixel color type, alpha blend factor, location on the screen,* Column 4, lines 65-67); said third control signal corresponding to a third of multiple compositing modes, a first of said compositing modes corresponding to each of the graphics pipelines providing pixel data associated with a portion of the image to be rendered, the pixel data of each of the graphics pipelines being super sampled (Column 31, lines 19-43), said input mechanism being configured to average, with a selected weighting, the super sampled pixel data; said fourth control signal corresponding to a fourth of multiple compositing modes, the fourth of said compositing modes corresponding to each of the graphics pipelines providing pixel data associated with a portion of the image to be rendered, said input mechanism being configured to combine the pixel data from the multiple digital video data streams to form the composite digital video data stream. (*transparent black, video passthrough, digital video, analog video, upscale, downscale, graphics data simultaneously,* Column 43, lines 63-67;

Column 42, lines 31-39; Column 5, lines 24-50; Figure 5, Column 9, line 5 through Column 11, line 7; Column 43, lines 62 through Column 47, line 45; Column 8, line 61 through Column 9, line 4; Column 43, line 62 through Column 44, line 33, *...blending of different layers of graphics and/or video; MPEG or other digital video signals input to the system, analog video signals, digital video signals*, Column 3, lines 39-55; *With both analog and digital video input, either one may be scaled while the other is displayed full size at the time as passthrough video.* Column 4, lines 34-36; *blends* ***signals from four different sources,*** *...various numbers of signals may be composited, including, for example two or more video windows*, Column 10, lines 60-66; Column 9, lines 60-62; *graphics compositor engine*, Column 47, line 25; Figure 6, element 58, *display engine*, Column 5, lines 24-50; Column 42, lines 31-39; video signals are processed in the video display pipeline while the graphics data is processed in the graphics display pipeline [each}, *respectively, and outputs to...*], Column 43, line 63 through Column 44, lines 7; *two or more graphics windows may be processed in parallel,* Column 6, lines 37-40; logical windows,).

Response to Arguments

12. Applicant's arguments filed May 9, 2003 have been fully considered but they are not persuasive.

13. Applicant states, page 8, second paragraph, regarding the 102(a) rejection, "assert that the rejection is improper", and "MacInnis does not teach...features of claim 2", namely a first and second compositing elements." (Page 9, second paragraph, lines 1-3, 5-8).

14. Examiner respectfully notes, as cited above that MacInnis discloses multiple compositors: *a video compositor* (Column 8, lines 61-67) , *a graphics compositor*

engine...composited in other line buffers. (Column 47, line 25-39), *upper layers are composited in memory buffer storage buffers called line buffers. Each line buffer... is sized to contain pixels for one scan line* (column 46, lines 43-45).

Requirements for Information

15. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application. Regarding the other basis of rejections, Examiner respectfully notes that the copending applications, 09/715,253, '232, '882, '600, '335, as revealed by the Applicant in the IDS, still stand under the double patenting statues, as noted in the Office Action dated February 12, 2003.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen E. Quillen whose telephone number is (703) 605-4584. The examiner can normally be reached on Tuesday – Friday, 8:30am – noon and 1:00 - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella, can be reached on (703) 308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or FAX'd to:

(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Sixth Floor (Receptionist), Arlington, Virginia

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number (703) 305-9600 or (703) 305-3800.

Allen E. Quillen
Patent Examiner
Art Unit 2676

July 20, 2003

Matthew C. Bella

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600